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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,368	04/16/2004	Seong-Hak Moon	P-0672	8098
34610 7590 08/09/2007 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER LEWIS, DAVID LEE	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 08/09/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/825,368	<b>Applicant(s)</b> MOON, SEONG-HAK	
	<b>Examiner</b> David L. Lewis	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 11-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |



**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita (6246385) in view of Johnson et al. (5041823).**

**As in claim 1, Kinoshita et al. teaches of a driving device of a flat display panel, figure 1,**

**comprising: a scan driving circuit for applying scan pulses to both ends of each scan line of the flat display panel, figures 1 item 17A/B, column 25 lines 1-40.**

**However Kinoshita fails to teach of a first data driving circuit for applying data pulses to odd numbered data lines among data lines of the flat display panel, and a second data driving circuit for applying data pulses to even numbered data lines of the data lines.**

**Johnson et al. teach of a first data driving circuit for applying data pulses to odd numbered data lines among data lines of the flat display panel, figures 5 item 25;**

and a second data driving circuit for applying data pulses to even numbered data lines of the data lines, **figures 5 item 24.**

**Johnson teaches of** a matrix display whose fundamental drive configuration is conventionally known to have applications to reduce flicker and increase display quality and may be applied to Kinoshita's matrix display because they both solve the same problem of providing a quality matrix display.

Therefore the advantages of Johnson teaching of odd and even drive groups for data lines can be advantageously used in Kinoshita's teaching of single sided drive as shown in figures 14 & 15. **Wherein it would have been obvious** to the skilled artisan at the time of the invention to combine the odd and even group data line matrix display driving of Johnson, to the matrix display driving of Kinoshita because as known in the art said division provides for a higher quality display, as found in claim 1.

**As in claim 2, Kinoshita et al. teaches of** further comprising a controller for outputting a control signal for controlling the scan driving circuit, **figure 1 item 18.**

**As in claim 3, Kinoshita et al. teaches of** wherein the controller outputs a control signal for simultaneously applying the scan pulses, **figure 1 item 18, figure 3(A) & (B), column 25 lines 1-40.**

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**As in claim 4, Kinoshita et al. teaches of** wherein the scan pulses have a same voltage, a same phase and a same pulse width, **figure 3(A) & 3(B).** as shown in figure A & B.

**As in claim 5, Kinoshita et al. teaches of** a driving device of a flat display panel, **figure 1,**

comprising: a first scan driving circuit for applying scan pulses to one side of each scan line of the flat display panel, **figure 1 item 17A, column 25 lines 1-40;**

a second scan driving circuit for applying the scan pulses to the other side of each scan line, **figure 1 item 17B, column 25 lines 1-40.**

**However Kinoshita fails to teach of** a first data driving circuit for applying data pulses to odd numbered data lines among data lines of the fiat display panel and a second data driving circuit for applying data pulses to even numbered data lines of the data lines.

**Johnson et al. teach of** a first data driving circuit for applying data pulses to odd numbered data lines among data lines of the flat display panel, **figures 5 item 25;**

and a second data driving circuit for applying data pulses to even numbered data lines of the data lines, **figures 5 item 24.**

**Johnson teaches of** a matrix display whose fundamental drive configuration is conventionally known to have applications to reduce flicker and increase display quality and may be applied to Kinoshita's matrix display because they both solve the same problem of providing a quality matrix display.

Therefore the advantages of Johnson teaching of odd and even drive groups for data lines can be advantageously used in Kinoshita's teaching of single sided drive as shown in figures 14 & 15. **Wherein it would have been obvious** to the skilled artisan at the time of the invention to combine the odd and even group data line matrix display driving of Johnson, to the matrix display driving of Kinoshita because as known in the art said division provides for a higher quality display, as found in claim 5.

**As in claim 6, Kinoshita et al. teaches of** further comprising a controller for outputting a control signal to control the first and second scan driving circuits, **figure 1 item 18, column 25 lines 1-40..**

**As in claim 7, Kinoshita et al. teaches of** wherein the controller outputs a control signal to simultaneously apply the scan pulses, column 25 lines 1-40.

**As in claim 8, Kinoshita et al. teaches of** wherein the scan pulses have a same voltage, a same phase and a same pulse width, figure 3(A) & (B), column 25 lines 1-40.

**As in claim 11, Kinoshita et al. teaches of** a driving method of a flat display panel, **figure 1 and 3,**

comprising: applying scan pulses to both ends of each scan line of the flat display panel, **figure 3(A) & (B), figure 1 items 17A/B, column 25 lines 1-40.**

applying data pulses to odd numbered data lines among data lines of the flat display panel and applying data pulses to even numbered data lines of the data lines

**However Kinoshita fails to teach of** applying data pulses to odd numbered data lines among data lines of the flat display panel and applying data pulses to even numbered data lines of the data lines.

**Johnson et al. teach of** a first data driving circuit for applying data pulses to odd numbered data lines among data lines of the flat display panel –or- applying data pulses to odd numbered data lines among data lines of the flat display panel, **figures 5 item 25;**

and a second data driving circuit for applying data pulses to even numbered data lines of the data lines —or- applying data pulses to even numbered data lines of the data lines, **figures 5 item 24.**

**Johnson teaches of** a matrix display whose fundamental drive configuration is conventionally known to have applications to reduce flicker and increase display quality and may be applied to Kinoshita's matrix display because they both solve the same problem of providing a quality matrix display.

Therefore the advantages of Johnson teaching of odd and even drive groups for data lines can be advantageously used in Kinoshita's teaching of single sided drive as shown in figures 14 & 15. **Wherein it would have been obvious** to the skilled artisan at the time of the invention to combine the odd and even group data line matrix display driving of Johnson, to the matrix display driving of Kinoshita because as known in the art said division provides for a higher quality display, as found in claim 11.

**As in claim 12, Kinoshita et al. teaches of** further comprising outputting a control signal to simultaneously apply the scan pulses, figure 1 item 18, column 25 lines 1-40, figure 3(A&B).

**As in claim 13, Kinoshita et al. teaches of** wherein the scan pulses have a same voltage, a same phase and a same pulse width, figure 3(A&B), column 25 lines 1-40.



**As in claim 14, Kinoshita et al. teaches of** wherein applying data pulses to odd numbered data lines includes a first data driving unit applying data pulses to odd numbered data lines, Johnson et al., **figure 5 item 25**

**As in claim 15, Kinoshita et al. teaches of** wherein applying data pulses to even numbered data lines includes a second data driving unit applying data pulses to even numbered data lines, **figure 5 item 24.**

**As in claim 16, Kinoshita et al. teaches of** wherein the odd numbered data lines extend from the first data driving circuit on a first side of the panel to a second side of the panel, figure 5 item 25 & 27, and the even numbered data lines extend from the second data driving circuit on the second side of the panel to the first side of the panel, figure 5 item 24 & 28.

**As in claim 17, Kinoshita et al. teaches of** wherein data pulses for the odd numbered data lines are applied by only the first data driving circuit, figure 5 item 25, and data pulses for the even numbered data lines are applied by only the second data driving circuit, figure 5 item 24.

**As in claim 18, Kinoshita et al. teaches of** wherein the first data driving circuit applies data pulses to only odd numbered data lines, figure 5 item 25, and the second data driving circuit applies data pulses to only even numbered data pulses, figure 5 item 24.

**As in claim 19, Kinoshita et al. teaches of** wherein the odd numbered data lines extend from the first data driving circuit on a first side of the panel to a second side of the panel, figure 5 item 25 & 27, and the even numbered data lines extend from the second data driving circuit on the second side of the panel to the first side of the panel, figure 5 item 24 & 28.

**As in claim 20, Kinoshita et al. teaches of** wherein data pulses for the odd numbered data lines are applied by only the first data driving circuit, figure 5 item 25 & 27, and data pulses for the even numbered data lines are applied by only the second data driving circuit, figure 5 item 24 & 28.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-8 and 11-13 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues 1) Kinoshita fails to teach of a scan driving circuit for applying pulses to both ends of each scan line with respect to claim 10 and Kinoshita's figures 1 and 49. The Applicant has cancelled claim 10 so the point is moot. Further, as shown in figure 1 line 12 is driven by circuits 17A and 17B, therefore Kinoshita does in fact teach of a scan driving circuit for applying pulses to both ends of each scan line. Applicant argues 2) as amended Kinoshita fails to teach of odd and even data line driving. See the new rejection in view of Johnson et al., figure 5. The correction to the abstract is approved. The amendment to the specification is approved. The replacement drawing sheet is approved. The cancellation of claims 9 and 10 are noted. The addition of new claims 14-20 is noted.

**Conclusion**

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(571) 272-7673**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on **(571) 272-7681**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571)-273-8300.
5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

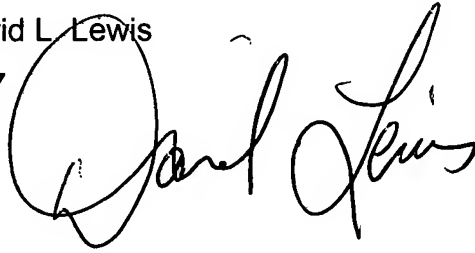
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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner: David L. Lewis

August 6, 2007

A handwritten signature in black ink, appearing to read "David Lewis", written over the printed name and date.